



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0425; Product Identifier 2016-NE-13-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbopan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede airworthiness directive (AD) 2016-24-08 which applies to all Rolls-Royce plc (RR) RB211-Trent 875-17, RB211-Trent 877-17, RB211-Trent 884-17, RB211-Trent 884B-17, RB211-Trent 892-17, RB211-Trent 892B-17, and RB211-Trent 895-17 model turbopan engines. AD 2016-24-08 requires repetitive inspections of the engine upper fairing and repair or replacement of any fairing that fails inspection. Since the FAA issued AD 2016-24-08, RR has developed a modification of the engine upper bifurcation nose fairing assembly that terminates the inspection requirements of this AD. This proposed AD would continue the repetitive inspections until the terminating action is performed at the next engine shop visit. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE24 8BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: http://www.rolls-royce.com/contact/civil_team.jsp; Internet: <https://customers.rolls-royce.com/public/rollsroycecare>. You may view this service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0425; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Eugene Triozzi, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7148; fax: 781-238-7199; email: Eugene.triozzi@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2019-0425; Product Identifier 2016-NE-13-AD” at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

The FAA will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

The FAA issued AD 2016-24-08, Amendment 39-18725 (81 FR 86567, December 1, 2016), (“AD 2016-24-08”), for all RR RB211-Trent 875-17, RB211-Trent 877-17, RB211-Trent 884-17, RB211-Trent 884B-17, RB211-Trent 892-17, RB211-Trent 892B-17, and RB211-Trent 895-17 model turbofan engines. AD 2016-24-08 requires repetitive inspections of the engine upper bifurcation fairing and repair or replacement of any fairing that fails inspection. AD 2016-24-08 resulted from reports of cracking and material release from an engine upper bifurcation fairing. The FAA issued AD 2016-24-08 to prevent failure of the engine fire protection system, engine fire, and damage to the airplane.

Actions Since AD 2016-24-08 Was Issued

Since the FAA issued AD 2016-24-08, RR has developed a modification of the engine upper bifurcation nose fairing assembly. Performance of this modification

terminates the repetitive inspection requirements of this AD. Also since the FAA issued AD 2016-24-08, the European Union Aviation Safety Agency (EASA) has issued AD 2018-0088, dated April 18, 2018, which requires repetitive inspections of the engine upper bifurcation fairing until modification of the engine upper bifurcation nose fairing assembly at the next engine shop visit.

Related Service Information under 1 CFR Part 51

The FAA reviewed RR Service Bulletin (SB) RB.211-72-J803, Revision 1, dated July 13, 2018, and Initial Issue, dated December 7, 2017. This service information describes procedures for modification of the engine upper bifurcation nose fairing assembly. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Other Related Service Information

The FAA reviewed RR Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AJ165, Revision 2, dated August 21, 2018. This service information provides guidance on upper bifurcation fairing inspection locations. The FAA also reviewed AMM TASK 70-20-02, Water Washable Fluorescent Penetrant Inspection (Maintenance Process 213), and OMat 632, high sensitivity fluorescent penetrant inspection. This service information provides guidance on performing a fluorescent penetrant inspection.

FAA's Determination

The FAA is proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would retain the repetitive inspection requirements of AD 2016-24-08. This proposed AD would also require modification of the engine upper

bifurcation nose fairing assembly at the next engine shop visit after the effective date of this AD.

Costs of Compliance

The FAA estimates that this proposed AD affects 125 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

| Action | Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|--|--|-------------------|-------------------------|-------------------------------|
| Inspection | 3.25 work-hours x \$85 per hour = \$276.25 | \$0 | \$276.25 | \$34,531 |
| Modification of engine upper bifurcation nose fairing assembly | 2 work-hours x \$85 per hour = \$170 | \$50 | \$220 | \$27,500 |

The FAA estimates the following costs to do any necessary repairs or replacements that would be required based on the results of the proposed inspection. The FAA has no way of determining the number of engines that might need these repairs or replacements:

On-Condition Costs

| Action | Labor cost | Parts cost | Cost per product |
|---|---|-------------------|-------------------------|
| Repair of engine upper bifurcation fairing | 8 work-hours x \$85 per hour = \$680 | \$500 | \$1,180 |
| Replacement of engine upper bifurcation fairing | 30 work hours x \$85 per hour = \$2,550 | \$500 | \$3,050 |

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and associated appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

Regulatory Findings

The FAA has determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2016-24-08, Amendment 39-18725 (81 FR 86567, December 1, 2016), and adding the following new AD:

Rolls-Royce plc: Docket No. FAA-2019-0425; Product Identifier 2016-NE-13-AD.

(a) Comments Due Date

The FAA must receive comments on this AD action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2016-24-08, Amendment 39-18725 (81 FR 86567, December 1, 2016).

(c) Applicability

This AD applies to all Rolls-Royce plc (RR) RB211-Trent 875-17, RB211-Trent 877-17, RB211-Trent 884-17, RB211-Trent 884B-17, RB211-Trent 892-17, RB211-Trent 892B-17, and RB211-Trent 895-17 model turbofan engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7130, Engine Fireseals.

(e) Unsafe Condition

This AD was prompted by reports of cracking and material release from an engine upper bifurcation fairing. The FAA is issuing this AD to prevent failure of the engine fire control system. The unsafe condition, if not addressed could result in engine fire and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 7,500 engine flight hours (FHs) since new, or since the last inspection, or within 150 flight cycles (FCs) after the January 5, 2017 (the effective date of AD 2016-24-08), whichever occurs later, inspect the engine upper bifurcation fairing for cracks or missing material. Use paragraph (g)(3) of this AD to perform the inspection.

(2) Repeat the inspection required by paragraph (g)(1) of this AD within every 7,500 engine FHs since last inspection.

(3) Inspect the engine upper bifurcation fairing as follows.

Note 1 to paragraph (g)(3): Figure 1 of RR Alert Non-Modification Service Bulletin (NMSB) RB.211-72-AJ165, Revision 2, dated August 21, 2018, provides guidance on upper bifurcation fairing inspection locations.

(i) Visually inspect upper bifurcation fairing seal face 22, seal support 23, and Zone A for any cracks or material loss on the right side.

(A) If fairing seal face 22 is found to have released material, repair or replace the fairing before further flight.

(B) If there is a single crack found on fairing seal face 22, shorter than 6 mm, repair or replace the fairing within 100 engine FCs, or at the next shop visit, whichever occurs sooner.

(C) If there is a single crack, longer than 6 mm, found on fairing seal face 22, repair or replace the fairing within 15 engine FCs or at the next shop visit, whichever occurs sooner.

(D) If there are two or more cracks found on fairing seal face 22, replace the fairing within 15 engine FCs or at next shop visit, whichever occurs sooner.

(E) If there is any cracking or material loss found on seal support 23, replace the fairing within 15 engine FCs or at next shop visit, whichever occurs sooner.

(ii) If the visual inspection required by paragraph (g)(3)(i) of this AD does not detect any cracks, fluorescent penetrant inspect Zone A.

(A) If a crack shorter than 6 mm is detected, repair or replace the fairing within 100 engine FCs, or at the next shop visit, whichever occurs sooner.

(B) If a crack longer than 6 mm is detected, repair or replace the fairing within 15 engine FCs or at the next shop visit, whichever occurs sooner.

Note 2 to paragraph (g)(3)(ii): AMM TASK 70-20-02, Water Washable Fluorescent Penetrant Inspection (Maintenance Process 213), and OMat 632, high sensitivity fluorescent penetrant inspection, provide guidance on performing a fluorescent penetrant inspection.

(h) Mandatory Terminating Action

At the next engine shop visit after the effective date of this AD, modify the upper bifurcation fairing assembly in accordance with the Accomplishment Instructions, paragraph 3., of RR Service Bulletin (SB) RB.211-72-J803, Revision 1, dated July 13,

2018, or Original Issue, dated December 7, 2017. Installation of a modified upper bifurcation fairing assembly is terminating action to the inspections required by paragraphs (g)(1) through (g)(3) of this AD.

(i) Installation Prohibition

After the effective date of this AD do not install an upper bifurcation fairing assembly, part number FK25470, onto any engine.

(j) Definition

For the purpose of this AD, a “shop visit” is defined as induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges, except that the separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance does not constitute an engine shop visit.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l) of this AD. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(l) Related Information

(1) For more information about this AD, contact Eugene Triozzi, Aerospace Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA, 01803; phone: 781-238-7148; fax: 781-238-7199; email: Eugene.triozzi@faa.gov.

(2) Refer to European Union Aviation Safety Agency (EASA) AD 2018-0088, dated April 18, 2018 for more information. You may examine the EASA AD in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2019-0425.

(3) For service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE24 8BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: http://www.rolls-royce.com/contact/civil_team.jsp; Internet: <https://customers.rolls-royce.com/public/rollsroycecare>. You may view this referenced service information at the FAA, Engine and Propeller Standards Branch, 1200 District Avenue, Burlington, MA, 01803. For information on the availability of this material at the FAA, call 781-238-7759.

Issued in Burlington, Massachusetts, on June 17, 2019.

Robert J. Ganley,
Manager, Engine & Propeller Standards Branch,
Aircraft Certification Service.
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